CLAIMS

I claim:

1. An adjustable mattress comprising:

a first section and a second section, the first section and the second section moveable relative to each other and together forming at least a portion of a sleeping surface of the adjustable mattress; and

a first mechanical drive unit within the adjustable mattress, the first mechanical drive unit connected to at least one of the first section and the second section and providing a mechanical force to move the first section relative to the second section.

2. The adjustable mattress of claim 1, further comprising one or more additional sections, each additional section forming a portion of the sleeping surface of the adjustable mattress, and each additional section moveable relative to at least one of the first section, the second section, or another one of the one or more additional sections.

3. The adjustable mattress of claim 2, further comprising a second mechanical drive unit within the adjustable mattress and connected to a least one of the additional sections to provide mechanical force to move the at least one of the additional sections relative to at least one of the first section, the second section, or another one of the one or more additional sections.

4. The adjustable mattress of claim 2 wherein the first mechanical drive unit is connected to at least one of the one or more additional sections to move the at least one of the one or more additional sections relative to at least one of the first section, the second section, or another one of the one or more additional sections.

5. The adjustable mattress of claim 1 further comprising a mattress cover enclosing the first section, the second section, and the first mechanical drive unit.

6. The adjustable mattress of claim 1 further comprising one or more layers of padding beneath the sleeping surface.

7. The adjustable mattress of claim 1wherein the first section hinges relative to the second section.

8. The adjustable mattress of claim 1 further comprising a foundation, at least one of the first section or the second section remaining stationary relative to the foundation.

9. The adjustable mattress of claim 1 wherein each of the first section and the second section includes a mattress core adapted to receive the first mechanical drive unit.

10. The adjustable mattress of claim 9 wherein the mattress core of at least one of the first section and the second section includes at least one of a foam core, a liquid core, an air core, a plurality of open spring coils, or a plurality of pocket spring coils.

11. The adjustable mattress of claim 1 further comprising a controller adapted to activate the first mechanical drive unit to move the first section relative to the second section.

12. The adjustable mattress of claim 11 wherein the controller is wireless.

13. The adjustable mattress of claim 11 wherein the controller is programmable to recall one or more positions of the first section and the second section.

14. The adjustable mattress of claim 11 wherein the controller provides digital adjustment of the first section relative to the second section.

15. The adjustable mattress of claim 14 wherein the digital adjustment permits entry of a number characterizing the position of the first section relative to the second section.

16. The adjustable mattress of claim 11 wherein the controller provides continuous adjustment of the first section relative to the second section.

17. The adjustable mattress of claim 16 wherein the continuous adjustment includes at least one of a slider, a knob, or a dial.

18. The adjustable mattress of claim 1 wherein the first mechanical drive unit includes a DC motor.

19. The adjustable mattress of claim 1 wherein the first mechanical drive unit includes a worm gear.

20. The adjustable mattress of claim 1 wherein the first mechanical drive unit includes one or more arms coupled to a DC motor.

21. The adjustable mattress of claim 1 wherein the first mechanical drive unit includes a cable and a cable winding motor.

22. The adjustable mattress of claim 1 wherein the first mechanical drive unit includes a plurality of motors.

23. The adjustable mattress of claim 1 wherein at least one of the first section and the second section remains parallel with a ground surface.

24. The adjustable mattress of claim 1 wherein the first section is at least one of a head section of a mattress of a foot section of a mattress.

25. The adjustable mattress of claim 1 wherein the first section includes a rigid sheet for transferring force from the first mechanical drive unit to a bottom surface of the first section.

26. A method for adjusting a mattress comprising:

providing a first section of the adjustable mattress forming a first portion of a sleeping surface;

providing a second section of the adjustable mattress forming a second portion of the sleeping surface;

providing a mechanical drive unit that moveably couples the first section to the second section; and

activating the mechanical drive unit to move the first section relative to the second section.

27. An adjustable mattress comprising:

a first section and a second section, the first section and the second section moveable relative to each other and together forming at least a portion of a sleeping surface of the adjustable mattress; and

a mechanical means within the adjustable mattress for moving the first section relative to the second section.

28. An articulated mattress having a flexible cover, comprising:

a base element having a head end forming a planar region parallel to the sleeping surface of said mattress;

a sleeping element comprising:

one or more mattress cores disposed on and above a flexible platform; and

articulation means fixedly attached to said base element, comprising a screw drive means fixedly mounted to said base element; and

linkage means coupled to said screw drive, whereby actuation of said screw drive causes said linkage to bear on said flexible platform, thereby displacing said platform;

and wherein said base element, said sleeping element, and said articulation means are located within said flexible cover.

29. The articulated mattress of claim 28, wherein said mattress overlaps a frame, said mattress further comprising one or more clamping means for attaching said mattress to said frame.

30. The articulated mattress of claim 28, wherein said articulation means further comprises a controller configured to effect said actuation.

31. The articulated mattress of claim 30 wherein said controller is a wireless controller.

32. An articulated mattress having a flexible cover, comprising:

a base element forming a planar region parallel to the sleeping surface of said mattress and having a head end;

a head armature having a proximate end and a distal end, said proximate end rotatably connected to said base element at said head end and disposed to rotate said distal end out of said planar region; and

motor means fixedly mounted to said base element and rotatably coupled to said head armature whereby actuation of said motor means causes rotation of said distal end of said armature;

wherein said base element, said head armature, and said motor means are located within said flexible cover.

33. The articulated mattress of claim 32, said motor means further comprising:

a stator portion fixedly attached to said base element;

a rotor portion disposed to rotate upon said actuation of motor means; and

an axle fixedly connected to said rotor portion;

wherein said axle is fixedly connected to said proximate end of said head armature.

34. The articulated mattress of claim 33, wherein said motor means comprises:

a stator portion fixedly attached to said base element;

cable winding means attached to a rotor portion of said motor;

a first fixed sheave mounted on said base element;

a second fixed sheave mounted on said head armature; and

a length of cable having a proximate end and a distal end;

wherein:

said proximate end of said cable is fixedly attached to said winding means;

said cable is wrapped at least partly around said winding means, passing thence around said first fixed sheave in a first direction and then around said second fixed sheave in a second direction; and

said distal end of said cable is fixedly attached to said head armature so that actuation of said motor means causes said distal end of said cable to be drawn towards said winding means, thereby rotating said head armature out of said planar region.

35. The articulated mattress of claim 32 wherein:

said mattress comprises a bottom surface disposed opposite said sleeping surface; and

said base element and said head armature are disposed between said sleeping surface and said bottom surface parallel to said bottom surface.

36. The articulated mattress of claim 35, further comprising one or more flexible mattress cores disposed between said sleeping surface and said base element and between said sleeping surface and said head armature.

37. The articulated mattress of claim 32, wherein said motor means comprises:

a stator portion fixedly attached to said base element;

cable winding means attached to a rotor portion of said motor;

a first fixed sheave mounted on said base element;

a second fixed sheave mounted on said head armature; and

a length of cable having a proximate end and a distal end;

wherein:

said proximate end of said cable is fixedly attached to said winding means;

said cable is wrapped at least partly around said winding means, passing thence around said first fixed sheave in a first direction and then around said second fixed sheave in a second direction; and

said distal end of said cable is fixedly attached to said base element so that actuation of said motor means causes said distal end of said cable to be drawn towards said winding means, thereby rotating said head armature out of said planar region.

38. The articulated mattress of claim 32 wherein said motor means further comprises a plurality of identical motors acting in concert.

39. The articulated mattress of claim 32 wherein said motor means further comprises a controller configured to effect said actuation.

40. The articulated mattress of claim 39 wherein said controller is a wireless controller.

41. An articulated mattress having a flexible cover, comprising:

a base element forming a planar region parallel to the sleeping surface of said mattress and having a foot end;

a foot armature having a proximate end and a distal end, said proximate end rotatably connected to said base element at said foot end and disposed to rotate said distal end out of said planar region; and

motor means fixedly mounted to said base element and rotatably coupled to said foot armature whereby actuation of said motor means causes rotation of said distal end of said armature;

wherein said base element, said foot armature, and said motor means are located within said flexible cover.

42. The articulated mattress of claim 41, said motor means further comprising:

a stator portion fixedly attached to said base element;

a rotor portion disposed to rotate upon said actuation of motor means; and

an axle fixedly connected to said rotor portion;

wherein said axle is fixedly connected to said proximate end of said foot armature.

43. The articulated mattress of claim 41, wherein said motor means comprises:

a stator portion fixedly attached to said base element;

cable winding means attached to a rotor portion of said motor;

a first fixed sheave mounted on said base element;

a second fixed sheave mounted on said foot armature; and

a length of cable having a proximate end and a distal end;

wherein:

said proximate end of said cable is fixedly attached to said winding means;

said cable is wrapped at least partly around said winding means, passing thence around said first fixed sheave in a first direction and then around said second fixed sheave in a second direction; and

said distal end of said cable is fixedly attached to said foot armature so that actuation of said motor means causes said distal end of said cable to be drawn towards said winding means, thereby rotating said foot armature out of said planar region.

44. The articulated mattress of claim 41 wherein:

said mattress comprises a bottom surface disposed opposite said sleeping surface; and

said base element and said foot armature are disposed between said sleeping surface and said bottom surface parallel to said bottom surface.

45. The articulated mattress of claim 44, further comprising one or more flexible mattress cores disposed between said sleeping surface and said base element and between said sleeping surface and said foot armature.

46. The articulated mattress of claim 41, wherein said motor means comprises:

a stator portion fixedly attached to said base element;

cable winding means attached to a rotor portion of said motor;

a first fixed sheave mounted on said base element;

a second fixed sheave mounted on said foot armature; and

a length of cable having a proximate end and a distal end;

wherein:

said proximate end of said cable is fixedly attached to said winding means;

said cable is wrapped at least partly around said winding means, passing thence around said first fixed sheave in a first direction and then around said second fixed sheave in a second direction; and

said distal end of said cable is fixedly attached to said base element so that actuation of said motor means causes said distal end of said cable to be drawn towards said winding means, thereby rotating said foot armature out of said planar region.

47. The articulated mattress of claim 41 wherein said motor means further comprises a plurality of identical motors acting in concert.

48. The articulated mattress of claim 41 wherein said motor means further comprises a controller configured to effect said actuation.

49. The articulated mattress of claim 48 wherein said controller is a wireless controller.